

RESEARCH NEWS

Princeton-Fung Global Forum focuses on global health

IN NOVEMBER, the annual Princeton-Fung Global Forum brought health experts together in Dublin to address the emergence of new diseases and challenges in an increasingly connected world. Case studies of “modern plagues,” including the Ebola crisis, framed the conversation among speakers, panelists and attendees from academia, government and nongovernmental sectors, the media, and the public. Among the conclusions: confronting the emergence of new diseases requires a multi-disciplinary approach involving not only public health and medical knowledge but also an understanding of a disease’s economic, environmental, political and historical roots.

The Princeton-Fung Global Forum is a series of meetings that Princeton hosts with the help of a generous gift from 1970 alumnus William Fung. **—By Elisabeth Donahue**

Energy and environment center opens its doors

WITH CONSTRUCTION ESSENTIALLY COMPLETE, researchers are moving into the new home of the Andlinger Center for Energy and the Environment, a 129,000-square-foot complex dedicated to research and teaching in areas involving energy efficiency, sustainable sources of energy, and environmental protection and remediation.

Located adjacent to the School of Engineering and Applied Science’s “EQuad,” the building is organized around multiple gardens and two large towers. The building holds a classroom and teaching laboratories, office space, a lecture hall, conference rooms, and research labs, including “cleanrooms” that have ultra-low dust levels and shared-use labs that house some of the world’s most sophisticated imaging and analytical equipment.

Emily Carter, the Gerhard R. Andlinger Professor in Energy and the Environment and founding director of the center, described it as a “living laboratory, both as it was being built and upon occupancy.”

The Andlinger Center translates fundamental knowledge into practical solutions that enable sustainable energy production and the protection of the environment and global climate from energy-related anthropogenic change. The center was founded in July 2008 through a gift from international business leader Gerhard R. Andlinger, Class of 1952. **—By John Sullivan**

Elusive particles found

IN THE PAST YEAR, PRINCETON PHYSICISTS have detected two particles that were predicted decades ago to exist but had not been found until now. Both particles were detected using a scanning-tunneling microscope to image the particles inside a crystal. The particles may someday enable powerful computers based on quantum mechanics.

A team led by Ali Yazdani, the Class of 1909 Professor of Physics, detected the “Majorana fermion,” which behaves simultaneously like matter and antimatter and was first proposed in 1937 by Italian physicist Ettore Majorana. The team, which received funding from the National Science Foundation and the Office of Naval Research, included B. Andrei Bernevig, an associate professor of physics, and other colleagues at Princeton and at the University of Texas-Austin. They published their results in the Oct. 2, 2014, issue of the journal *Science*.

A few months later, an international team led by M. Zahid Hasan, professor of physics, detected another elusive particle, the “Weyl fermion,” first theorized by the mathematician and physicist Hermann Weyl in 1929. The particle is massless and can also behave like matter and antimatter. The research team, which received support from the Gordon and Betty Moore Foundation and the U.S. Department of Energy, published their work in *Science* on July 16, 2015. **—By Steven Schultz and Morgan Kelly**

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